

## Exploring Protein Structure and Analysis: Engaging Science Enrichment Program

A group of 20 students from our school, including Form 4 and Form 5 students, recently had the opportunity to participate in an immersive Science Enrichment Program. The program, which took place in February, was designed to expand their understanding of protein structure and engage them in qualitative and quantitative analysis experiments. Held at the HKFYG Centre for Creative Science and Technology, located in the bustling Hong Kong Science Park, this program provided an exciting platform for students to delve into the captivating world of proteins.

During the program, students were actively engaged in hands-on experiments utilizing Sodium Dodecyl Sulfate-Polyacrylamide Gel Electrophoresis (SDS-PAGE) and Western Blotting techniques, enabling them to analyze protein composition and characteristics. In the SDS-PAGE experiment, students applied protein samples to polyacrylamide gels and utilized electrophoresis to separate the proteins into distinct bands. By carefully examining the positions and sizes of these bands, students deduced valuable information such as molecular weight and relative abundance of the proteins.

Another significant experiment was the Western Blotting procedure, wherein students applied protein samples onto membranes and employed specific reactions and staining methods to detect the presence and concentration of target proteins. This widely utilized method in protein quantification provided students with valuable hands-on experience, allowing them to familiarize themselves with procedural steps and underlying principles.

This enriching experience not only equipped the students with theoretical knowledge but also allowed them to operate sophisticated instruments and equipment. By immersing themselves in scientific experimentation, the students gained a sense of fulfillment and nurtured their scientific curiosity. The program's impact is evident in the enhancement of the students' scientific literacy and the inspiration it has instilled in them to pursue further scientific research.





